

**AMENDMENTS TO THE CLAIMS:**

1. (Withdrawn) A targeting construct comprising:
  - (a) a first polynucleotide sequence homologous to a low density lipoprotein-related protein 5 gene;
  - (b) a second polynucleotide sequence homologous to the low density lipoprotein-related protein 5 gene; and
  - (c) a selectable marker.
2. (Withdrawn) The targeting construct of claim 1, wherein the targeting construct further comprises a screening marker.
3. (Withdrawn) A method of producing a targeting construct, the method comprising:
  - (a) providing a first polynucleotide sequence homologous to a low density lipoprotein-related protein 5 gene;
  - (b) providing a second polynucleotide sequence homologous to the low density lipoprotein-related protein 5;
  - (c) providing a selectable marker; and
  - (d) inserting the first sequence, second sequence, and selectable marker into a vector, to produce the targeting construct.
4. (Withdrawn) A method of producing a targeting construct, the method comprising:
  - (a) providing a polynucleotide comprising a first sequence homologous to a first region of a low density lipoprotein-related protein 5 gene and a second sequence homologous to a second region of a low density lipoprotein-related protein 5 gene;
  - (b) inserting a positive selection marker in between the first and second sequences to form the targeting construct.
5. (Canceled) A cell comprising a disruption in a low density lipoprotein-related protein 5 gene.
6. (Canceled) The cell of claim 5, wherein the cell is a murine cell.
7. (Canceled) The cell of claim 6, wherein the murine cell is an embryonic stem cell.
8. (Canceled) A non-human transgenic animal comprising a disruption in a low density lipoprotein-related protein 5 gene.
9. (Canceled) A cell derived from the non-human transgenic animal of claim 8.

10. (Canceled) A method of producing a transgenic mouse comprising a disruption in a low density lipoprotein-related protein 5 gene, the method comprising:

- (a) introducing the targeting construct of claim 1 into a cell;
- (b) introducing the cell into a blastocyst;
- (c) implanting the resulting blastocyst into a pseudopregnant mouse, wherein said pseudopregnant mouse gives birth to a chimeric mouse; and
- (d) breeding the chimeric mouse to produce the transgenic mouse.

11. (Canceled) A method of identifying an agent that modulates the expression of a low density lipoprotein-related protein 5, the method comprising:

- (a) providing a non-human transgenic animal comprising a disruption in a low density lipoprotein-related protein 5 gene;
- (b) administering an agent to the non-human transgenic animal; and
- (c) determining whether the expression of low density lipoprotein-related protein 5 in the non-human transgenic animal is modulated.

12. (Canceled) A method of identifying an agent that modulates the function of a low density lipoprotein-related protein 5, the method comprising:

- (a) providing a non-human transgenic animal comprising a disruption in a low density lipoprotein-related protein 5 gene;
- (b) administering an agent to the non-human transgenic animal; and
- (c) determining whether the function of the disrupted low density lipoprotein-related protein 5 gene in the non-human transgenic animal is modulated.

13. (Withdrawn) A method of identifying an agent that modulates the expression of low density lipoprotein-related protein 5, the method comprising:

- (a) providing a cell comprising a disruption in a low density lipoprotein-related protein 5 gene;
- (b) contacting the cell with an agent; and
- (c) determining whether expression of the low density lipoprotein-related protein 5 is modulated.

14. (Withdrawn) A method of identifying an agent that modulates the function of a low density lipoprotein-related protein 5 gene, the method comprising:

- (a) providing a cell comprising a disruption in a low density lipoprotein-related protein 5 gene;
- (b) contacting the cell with an agent; and
- (c) determining whether the function of the low density lipoprotein-related protein 5 gene is modulated.

15. (Withdrawn) The method of claim 13 or claim 14, wherein the cell is derived from the non-human transgenic animal of claim 8.

16. (Withdrawn) An agent identified by the method of claim 11, claim 12, claim 13, or claim 14.

17. (New) A transgenic mouse whose genome comprises a disruption in an endogenous low density lipoprotein-related protein 5 gene, wherein where the disruption is homozygous, the transgenic mouse lacks production of low density lipoprotein-related protein 5 and exhibits at least one of the following: retinal degeneration, increased anxiety or hypoactivity.

18. (New) The transgenic mouse of claim 17, wherein the increased anxiety is characterized by a decrease in time spent in a central region of an open field environment, relative to a wild-type mouse..

19. (New) The transgenic mouse of claim 17, wherein the hypoactivity is characterized by a decrease in total distance traveled in an open field environment, relative to a wild-type mouse.

20. (New) A cell or tissue obtained from the transgenic mouse of claim 17.

21. (New) A transgenic mouse whose genome comprises a heterozygous disruption in an endogenous low density lipoprotein-related protein 5 gene, wherein the disruption in a homozygous state inhibits production of functional low density lipoprotein-related protein 5 resulting in a transgenic mouse exhibiting retinal degeneration.

22. (New) The transgenic mouse of claim 21, wherein the increased anxiety is characterized by a decrease in time spent in a central region of an open field environment, relative to a wild-type mouse.

23. (New) The transgenic mouse of claim 21, wherein the hypoactivity is characterized by a decrease in total distance traveled in an open field environment, relative to a wild-type mouse.

24. (New) A method of producing a transgenic mouse whose genome comprises a disruption in an endogenous low density lipoprotein-related protein 5 gene, the method comprising:

(a) providing a mouse embryonic stem cell comprising a disruption in an endogenous low density lipoprotein-related protein 5 gene; and

(b) introducing the mouse embryonic stem cell into a mouse blastocyst;

(c) implanting the resulting blastocyst into a pseudopregnant mouse, wherein the pseudopregnant mouse gives birth to a chimeric mouse; and

(d) breeding the chimeric mouse to produce the transgenic mouse;  
wherein where the disruption is homozygous, the transgenic mouse lacks production of functional low density lipoprotein-related protein 5 and exhibits at least one of the following: retinal degeneration, increased anxiety or hypoactivity.

25. (New) The transgenic mouse produced by the method of claim 24.